

1     **Specification**

2     **[0001]**   This application claims the benefit of the filing date of my (Donald R. Runyan)  
3     Provisional Patent, Application Number 60/430,041, filed on November 27, 2002.

4     **Descriptive Title of the Invention**

5     **[0002]**   The invention is titled "Outbound telemarketing automated speech recognition  
6     data gathering system". This invention is the process of using automated speech  
7     recognition to conversationally interact with a called party to disseminate information  
8     and/or collect data.

9     **Cross Reference to Related Applications**

10    **[0003]**   This will be supplied later on forms PTO/SB/08A and PTO/SB/08B.

11    **Statement Regarding Fed Sponsored R & D**

12    **[0004]**   Not Applicable

13    **Reference to Sequence Listing, a Table, or a Computer Program Listing Appendix**

14    **[0005]**   Not Applicable

15    **Background of the Invention**

16    **[0006]**   The need for calling people, giving information about seminars, and gathering data  
17    from people who received the information and who wished to attend the seminars sparked  
18    the initial idea to use automated speech recognition software to disseminate information and  
19    gather data. However, the first application developed, and implemented on November 25,  
20    2002, was to contact people who might be interested in getting price comparisons for their  
21    prescription medications. The process automatically dialed telephone numbers from a  
22    database of stored telephone numbers. The program managing the process recorded the call  
23    status (e.g., ring no answer, busy, answering machine, live answer, prospect, referral, etc.)  
24    and played a prerecorded script to people who answered their phones. The prerecorded

25 script asked people if they would be interested in receiving a quote for their prescription  
26 medications. If the person answered affirmatively, they were asked to give and spell their  
27 first name, last name, give a telephone number where they could be contacted, and list their  
28 medications. If the person contacted answered that they were not interested, they were  
29 asked if they would like to refer someone who might be interested. If they answered  
30 affirmatively, they were asked to supply the referred person's name and telephone number.  
31 If the person did not wish to refer anyone, they were asked if they would like to be placed  
32 on a do-not-call list. If the person answered negatively, they were thanked for their time  
33 and the call was terminated. If they answered positively, they were asked to say their name  
34 and confirm their telephone number. They were thanked and the call was terminated.  
35 Their telephone number was then marked to comply with their wish not to be called again.  
36 This process was used to place over one million telephone calls. The innovative new  
37 system produced nearly twenty thousand positive responses using prerecorded scripts and  
38 automated speech recognition to disseminate information and gather and save data to price  
39 prescription medications for the responding people.

#### 40 **Brief Summary of the Invention**

41 **[0007]** The invention is intended to replace the process of a live operator or autodialer  
42 dialing a telephone number, a live operator greeting the called party, and a live operator  
43 giving information to a called party and/or gathering and storing data from the called party,  
44 based upon the called party's responses to questions from the live operator, for any purpose  
45 including sales, sales leads, sales referrals, surveys, contest registration, seminar  
46 registration, and any other general of specific information dissemination and/or data  
47 collection uses.

48     **Brief Description of the Drawings**

49     **[0008]**   Not Applicable

50     **Detailed Description**

51     **[0009]**   This invention combines 1) a stored set of telephone numbers to be called, 2)  
52     public telephone system connection hardware, 3) a scripted call flow, 4) prerecorded audio  
53     scripts (messages and questions), 5) automated speech recognition software, 6) called party  
54     utterances (answers to questions), 7) computer stored grammars of possible called party  
55     utterance responses (answers to questions), 8) a computer program, and 9) a database for  
56     retrieved data, delivered information, and call results.

57     **[0010]**   What initiates the process, is the desire of someone to reach a number of people  
58     identified by unique telephone numbers with a desire to disseminate information and/or  
59     request data from the called party. Once it is determined what information is to be  
60     disseminated and/or what data is to be gathered, 3) a scripted call flow is developed to  
61     interactively communicate with the called parties. Next 4) prerecorded audio scripts  
62     (questions and messages) are developed using live recorded voices or text-to-speech  
63     recordings. Next 9) a database is designed and created to contain retrieved data, store  
64     delivered information (including the telephone number which is delivered to the public  
65     telephone system for connection to the called party), and hold the result of the completed  
66     call (e.g., hung up, left answering machine message, ring no answer, busy, bad number, do  
67     not call, unknown/in process, transfer to live operator, prospect, referral, and fax). Next 7)  
68     computer stored grammars of possible called party utterance responses are created and  
69     stored. Next 8) a computer program to process the scripted call flow is developed. This  
70     computer program will also manage the outbound called party dialing process, using the 2)  
71     public telephone system connection hardware, so when each call is completed the next

72 telephone number in the database will be called until all numbers have been called. Once  
73 the automated process is started, the 2) public telephone system connection hardware, under  
74 the control of the computer program, connects to each dialed telephone number in the  
75 database and the computer program records the call status in 9) a database for retrieved data  
76 (numbers, alphabetic characters, and words), delivered information, and call results. When  
77 a live party is reached, the computer program executes the call flow delivering prerecorded  
78 audio scripts (messages and questions) and executes the 5) automated speech recognition  
79 software to determine the 6) called party utterances (answers to questions) which are  
80 compared to the 7) computer stored grammars for matches. Each utterance guides the  
81 computer program to the next step in the computer program, as described in the call flow,  
82 which may be to deliver a prerecorded message or ask another prerecorded question, store  
83 the automated speech recognition result as data, ask the called party to repeat what they said  
84 (if the called party's utterance does not match the stored grammar), ask the called party to  
85 answer the previous question if the system detects no utterance from the called party,  
86 connect to the next telephone number in the database if the called party hangs up, or thank  
87 the called party and terminate the call. When the system determines an answering machine  
88 is reached, a prerecorded message may be left on the called party's answering machine, the  
89 call result (that an answering machine message was left) is recorded in the database, and the  
90 call is terminated. The detail call results are normally reported in the form of a spreadsheet  
91 or a password protected Internet accessed screen for immediate or future review.

92 **[0011]** An example of this invention would be: call a list of selected people, remind them  
93 of an upcoming meeting, deliver the content of the meeting, and ask the called party if  
94 she/he intends to attend the meeting, and record the answer for the meeting sponsors to  
95 review. Another example would be: call a specified list of people and ask them if they

196 would be willing to contribute to a specific charitable organization. If the called person  
197 agreed to contribute, the system would capture and record the called person's name and  
198 address data, the amount to be contributed, the credit card number and the credit card  
199 expiration date. Another example would be: call a specified list of people who previously  
100 requested to be called, ask them if they are still interested in pursuing the opportunity, ask  
101 them if they have a home computer, ask them if they have Internet access and record the  
102 called party as a prospect or as not a prospect. Another example would be: call a selected  
103 list of people, ask the called party if he/she would like to speak with their state senator  
104 regarding a pending bill, and then either terminate the call or transfer the call to the  
105 senator's office. Another example would be: call a selected list of people and ask each  
106 called party his/her answers to a set of opinion survey questions.

107 **[0012]** This invention is similar in many respects to what happens when a live operator  
108 calls a person with a single purpose. What makes this invention unique is the use of  
109 automated speech recognition in outbound calling to: understand the called party's  
110 utterances (answers to questions), deliver appropriate responses (prerecorded messages or  
111 questions), deliver information (prerecorded messages), and deliver requests (i.e., ask  
112 questions) based upon the called party's utterances (i.e., answers to questions).

113 **[0013]** The above described method and features should be readily apparent to those of  
114 ordinary skill in the art of telephony and automated speech recognition and they should  
115 understand that the use of automated speech recognition in outbound calling to disseminate  
116 information and/or gather data from called parties for any specific or general purpose is a  
117 unique invention.